

REMARKS

Review and reconsideration of the Office Action dated May 11, 2010, is respectfully requested.

Claims 36-37, 39-45, and 48-51 have been amended. Support for the amendment can be found on Claims 1-35 as originally filed and paragraphs [0009], [0034], [00028] to [00036], [00078] to [00081], and [0084] to [0086] of the specification as originally filed.

No new matter has been added to the claims by the present amendment.

FURTHERMORE, THE EXAMINER IS RESPECTFULLY REQUESTED TO CONTACT THE UNDERSIGNED AT THE INDICATED TELEPHONE NUMBER TO CONFIRM THE DATE AND TIME SET ON THE ATTACHED INTERVIEW REQUEST.

Applicants believe that the present set of claims is novel and not obvious over the cited references.

Applicants' comments regarding the cited references can be found below.

Office Action

Turning to the Office Action, the paragraphing of the Examiner is adopted.

Claims Rejections– Formalities

The Examiner rejected Claims 36-53 under 35 USC 112, second paragraph, as being indefinite.

The Examiner's position can be found on pages 2-3 of the Office Action.

In response, Applicant amended the claims to overcome the formality rejection.

Regarding the term "enhancing", Applicant respectfully points out to the Examiner that the specification has several references exemplifying what is intended in the term, including:

“flavor and taste profile”; “flavor and taste perceptions are enhanced”; “enhanced taste characteristics”; “modifying taste profiles of beers”;

“to enhance taste characteristics of the diluted beer when compared to a dilution solely with water” (See paragraph [009], Abstract, Claim 1);

“reduce after taste bitterness on the tongue with more intense expression of flavors and even more approachable for drinking” (See Paragraph [00084]);

“were more approachable and had a broader flavor profile and reduced sharpness on the palate compared with unmodified stout beers” (See Paragraph [00084];

“were more approachable because the modification reduced the influence of an ester component in the taste profile and exposed more malt flavor components” (See Paragraph [00085]); and

“had enhanced aroma enhanced flavor profiles and greater length on the palate” (See Paragraph [00086]).

Thus, the term is well defined by the specification.

Regarding the term “finished base beer”, Applicant respectfully points out to the Examiner that this term is well known in the art. The term finished base beer refers to a beer that has been fermented, conditioned, and filtered (where this is done), but not necessarily gassed. The term therefore referred to a base beer that is one that is further modified by the additive of the present invention.

Accordingly, withdrawal of the claims rejection is respectfully requested.

Claims Rejection- (Prior Art – Obviousness)

The Examiner rejected Claims 36-53 under 35 U.S.C. 103(a) as being obvious over Donhowe (US 2003/0157218) in view of Costa (WO 01/68534) further in view of Lindon et al. (US 5,786,006) and further in view of Alcazar (2002, Multivariate Characterization of beers

according to their mineral content, hereafter R4).

The position of the Examiner can be found on pages 3-8 of the Office Action.

Applicant respectfully traverses.

The present set of claims contains three independent claims, namely, Claims 36, 48, and 53. Claims 36 and 48 are directed to a method for enhancing a diluted beer and Claim 53 is directed to a diluted beer made according to the method of Claim 36.

The following remarks are addressed to independent Claims 36, 48, and 53, because if these claims are not anticipated or obvious, it follows that none of the other rejected dependent claims are anticipated or obvious.

Applicant notes that Donhowe teaches a process for the preparation of a sport beer having enhanced nutrition. Various supplements including proteins, peptide, amino acid, antioxidant, mineral and/or vitamin supplements are added to the beer during the preparation process to increase the nutritional value. (See Abstract, paragraphs [008] and [0014])

Compared with Claims 36 and 48, the Donhowe reference fails to teach a method for **enhancing the taste of a beer** by preparing a mineral additive by combining group A minerals, group B minerals, group C minerals and group D minerals as presently claimed; 2) adding the mineral additive to the finished base beer; and 3) the mineral additive enhances the taste of the finished base beer compared to the taste provided by a finished base beer diluted solely with water.

Applicant notes that the Donhowe reference only teaches the addition of mineral such as calcium, zinc and iron (paragraphs [0015] -[0017]). Donhowe mentions minerals as one of many different options of chemicals that may enhance nutrition. Applicant notes that it is well known in the art that minerals help increase the nutritional value.

What is not known in the art is that minerals enhance the taste of beer.

Applicant notes that the claims specifically require the step of preparing the mineral additive by combining minerals of each one of the 4 different groups of minerals. The additive is comprised only of the selected minerals. The Donhowe reference is silent regarding preparing

an additive having several minerals. It looks like from the teaching of Donhowe that the calcium, iron, and zinc are added separately.

Applicant notes that Costa provides for a very open ended range of minerals in amounts relative **to health benefits, but not in line with taste**. There is no indication of amounts of minerals that enhance flavors and no indication that a combination of minerals may do so.

Applicants note that Costa takes the reader through the problems associated with the use of distilled water and the benefits of supplementing water and other drinks with a range of additives including vitamins, minerals, amino acids, protein supplements, and extra supplements such as probiotics, garlic, papaya enzymes and omega-3 fatty acids.

In addition, Applicant notes that Costa teaches that water in particular is devoid of minerals/vitamins and the like and that a certain number of them are needed to avoid symptoms such as fatigue. It would seem to the applicant to be implicit that all of the compounds are needed. However the reference to the amounts needed define a range starting at 0. Thus one is left uncertain as to what compounds are actually required. There is no definite indication as to which combinations of these compounds should be used together or whether all or how many of them should be used.

Furthermore, Applicant notes that Costa also fails to teach the step of preparing a mineral additive including the minerals according to the claims.

In addition, Applicant notes that neither Donhowe and/or Costa recognized that the combination of the selected minerals may inherently enhance taste.

A person skilled in the art will know that the chemical art is unpredictable. Each specific active ingredient has its own properties and also addiction properties when mixed with other chemicals and their effects on a composition could not be reliably predicted.

Applicant notes that it was clearly unpredictable which would be effective and required to select the combination of chemicals that will specifically enhance the taste of beer.

In Ex parte Viscardi, 136 USPQ 382, the applicants discovered that the addition of carbon dioxide would completely remove static electricity. The Examiner rejected the application over a reference that taught the addition of carbon dioxide, but for a different reason. The issue was whether the addition of carbon dioxide to completely remove static electricity was novel. The court held that the invention was unobvious. The rule of law is that a significant and unobvious improvement could be used to rebut an obviousness rejection. The court reasoned that in the absence of appreciation by the patentee of the fact that carbon dioxide will completely remove a charge of static electricity, there was no reason why the inventor, or one skilled in the art following the patentee's teaching, should inherently adjust the concentration of carbon dioxide for the removal of the complete static charge.

Similarly, the present inventor discovered that the selection of the **specific claimed minerals** at the claimed proportions produces a mineral additive that enhances the taste of a base beer and at the same time it is not harmful to humans or animals even if toxic chemicals form part of the mineral additive.

Only, after much experimentation and testing of many compounds, did the present Applicant discover that the specific mixture of minerals and the specific proportions would always provide the capacity to enhance the taste of a base beer.

Thus, in the absence of teaching by Donhowe and/or Costa that producing the mineral additive according to the present invention would always provide the capacity to dilute beer by compensating somewhat for the reduction and disruption of flavor and taste characteristics (profiles) commensurate with the dilution, there was no reason why Applicants, or one skilled in the art following Costa teaching, will conclude with the present invention.

Thus, neither of the Donhowe and Costa references, taken alone or in combination, teaches the present invention as claimed.

Applicant notes that Lindon refers to mineralized water formulation that has utility in preventing cardiovascular disease. The water contains certain amounts of strontium,

magnesium, calcium and lithium. There is no reference to adding these compounds to enhance the flavor of beer. Thus, the reference fails to teach the use of Lithium on a beer base.

Beer and water are two different products that required different production method steps. The chemicals that may be used on one method may not work for the other method. Thus, a person skilled in the art cannot predict that adding lithium to a beer base (fermentation, filtration, condensation, etc) will provide the same results as adding lithium to water.

Alcazar (R4) was cited to show the characterization of beers by their mineral content. Applicant notes that R4 clearly shows that the minerals present in beer come from the cereal, hops, and yeast used. The reference is silent regarding adding **additional minerals** to the beer.

Applicant's fundamental position is that the Examiner has not shown any document teaching that the addition of a mineral to a finished beer will enhance its flavor.

Background

It seems appropriate to set out an outline of the brewing process to facilitate a discussion that takes this matter forward.

An overview of the brewing process is shown in the wikipedia entry at <http://en.wikipedia.org/wiki/Brewing> a printout of which is forwarded herewith. (See Attachment A)

The Examiner can see that there are several steps in making beer perhaps summarized as follows :

Malting involving steeping, germination and kilning whereby to place the barley in a state ready for endogenous enzymes to break down the complex carbohydrates to sugars that yeasts are able to work on in their fermentation. It will be noted that there is an input of water in the steeping stage whereby some of the soluble components of barley may be carried away.

Milling. Grains of the barley are comminuted for easier access to water.

Mashing involves mixing the milled grain with water to extract sugar and other soluble compounds from the barley, providing the endogenous enzymes with suitable conditions to break down the complex carbohydrates to simpler sugars.

Lautering is the process of draining the sugar rich water out of the mash, and also perhaps using additional water to extract additional sugars. The spent grain, left over after lautering is removed. The spent barley is still rich in certain nutrients including minerals and has commercial uses such as in animal feeds. The mineral content of the input into the mash will be altered because some of the minerals will be associated with the organic matter in the spent barley fraction. Minerals will have different affinities to the spent grain fraction and the effect will therefore be uneven.

Boiling inactivates any of the endogenous enzymes. At the end of boiling, typically various compounds such as hops or other coloring or flavoring will be added. At the end of the boiling, solids are removed typically in a whirlpool vessel whereby solids form a "trub" in the middle of the whirlpool. Such solids, include precipitated proteins, carbohydrates and any minerals that are associated with them.

Fermenting is the process started by adding yeast with its associated complement of minerals, whereby sugars are transformed to alcohol and various biproducts including flavor biproducts are produced. Much of the yeast and associated debris, including coagulated proteins, carbohydrates and a substantial associated mineral content settled to the bottom of the fermentation vat and is typically removed.

Conditioning. The beer may be racked to new tanks and aged.

Filtering. After conditioning, beer then enters the finishing stage and is typically filtered to remove sediments and flocculated proteins and carbohydrates, and again associated minerals. After the filtering (if this is done) the beer is considered finished. Please note that "finished beer" is a term of the art. Beer may be carbonated after filtering.

Packaging - the beer is packed into the receptacles in which it is sold, e.g. bottles.

Minerals in brewing.

Certain minerals are important in the Fermentation Process. Minerals have different roles at the various stages of the brewing process. Thus a particular mineral balance will be beneficial at the fermentation stage and this may be varied depending on the desired effect. For an indication of the impact of minerals on yeast during fermentation please find herewith a discourse on the impact of minerals. This can be downloaded from the following URL:-

[http://eprints.usq.edu.au/1064/1/Walker-](http://eprints.usq.edu.au/1064/1/Walker-De_Nicola_Anthony_Learmonth_aper_IBD_Hobart_2006.pdf)

[De_Nicola_Anthony_Learmonth_aper_IBD_Hobart_2006.pdf](http://eprints.usq.edu.au/1064/1/Walker-De_Nicola_Anthony_Learmonth_aper_IBD_Hobart_2006.pdf) (See attachment B)

The applicant has provided this document with a view to providing the Examiner with some background into fermentation. It is pointed out that the composition referred to is the wort, this is as distinct to the finished beer subject of the present application. We refer the examiner in particular to the section headed as "Abstract" and "Introduction". It can be seen that the levels of minerals are quite different to the levels of minerals claimed.

The presence of minerals is necessary in the wort to ensure various desirable enzymic processes take place. If at least some of the levels of minerals in the wort are not within certain general ranges, then fermentation will not proceed in a manner to provide the desired product.

Minerals are added and removed during the brewing process.

There are several input points and output points in brewing that means that simply the additions and subtractions mean a variation in concentration in the finished beer as compared to the mash. Additionally, the relative affinity of various minerals, for example by ionic attraction, mean that any particular mineral can in large part be removed in connection with removing a solid at one particular stage, for example in clarifying removal of the trub, or the spent barley.

It is known that yeast actively transports magnesium and zinc into the cells from the wort. This means that taken separately from the yeast the zinc concentration in the wort is reduced,

and at the end of fermentation, when the yeast cells are removed, the zinc concentration is reduced. Similarly, magnesium and any other minerals that are in high demand, such as potassium.

There are also many other less active interactions between metallic minerals and other particles such as proteins or carbohydrates present in the wort where minerals may bind, for example, by electrostatic forces, and on removal of these at the end of fermentation or during filtering the concentration of these minerals in the fluid is altered.

In the case of the present invention, therefore, there would be little point in adding the mineral component during mashing or to the wort, because the concentrations would change and therefore relative balance would be altered. In addition, judging from the Walker et al. reference, the levels of calcium would negatively impact on the fermentation process.

Accordingly it is submitted that the stage at which minerals are added during the brewing process is absolutely critical if the concentration or amount of mineral is important.

Addition of Potassium in brewing

Witt adds potassium containing compounds to the mash - this is where amylases breakdown the complex carbohydrates of the barley to sugars that are fermentable by yeasts. Many of the minerals are removed from the system when the debris from the mash, i.e. barley husks and other remnants are removed. This is then made up to constitute a wort, which is again altered by the fermentation process. After fermentation, the mineral content is again altered by removal of the yeast and also coagulated protein on filtering. Adding mineral to a finished beer, means that by and large these are available in the form they are added with no possibility of removal together with, for example, spent barley, or yeast, and in accordance with the findings of the present invention impact directly on taste, and with an appropriate balance of 7 or more minerals as set out in the claims providing a means of enhancing the flavor of beer.

Accordingly applicant disagrees with the Examiner's assertion that "the addition of potassium phosphate and potassium hydrogen phosphate to a diluted beer is specifically known to enhance the flavor of the beer" in the context of the present claims.

Flavor Compounds in Beer

Flavor in brewed beer is understood to be a very complex subject with a great many flavor compounds interacting synergistically mostly in very subtle ways to arrive at the final flavor of the beer. More than about 800 compounds are identified to contribute to the characteristic flavor of beer. Please find herewith a printout from the website of the Carlsberg brewery as a brief overview of taste characteristics, supporting applicant's position in short form.

This page is present at the following URL

<http://www.crc.dk/flab/flavour.htm>. (See attachment C)

Applicant points out the following statement in the first paragraph "The main flavor characteristics are the bitter taste derived primarily from the hops, an alcoholic note from ethanol and a carbonation mouth feel from CO₂." It then goes onto to describe other characteristics that are of secondary importance as follows "Secondary flavor notes include fruity estery flavors, alcoholic notes from higher alcohols and various sulphur components." There are lesser compounds that may not individually be perceptible but add synergistically to provide the taste of the beer.

It must be appreciated that the flavor of beer is very complex and depends on subtle interaction of flavors derived from a very large number of compounds that contribute to the overall flavors.

A more detailed exposition of the types of compounds that contribute to the taste profile of beer are set out in a lecture entitled "Flavors in Beer" by Mussche and Mussche which is downloadable from the following URL:-

http://www.beertown.org/events/cbc/seminars/Roger_Mussche2.doc (See attachment D)

As can be seen, quite a large array of compounds are known to impact on flavor. One mineral, zinc, is referred to in tables 17 and 23 as a positive factor in the biosynthesis of higher alcohols and acetate ester formation respectively. Thus zinc might be considered to impact in an indirect way to flavor, that is it is not the flavor of the zinc but the taste compound whose biosynthesis zinc facilitates.

A negative impact of metallic ions is referred to in Table 1 under point 3, but these ions are usually derived from poor quality fermentation vessels rather than being the minerals referred to by the applicant.

Applicant submits that given the high degree of complexity of the interaction of flavor compounds that contribute to the taste in beer that it is very surprising that the addition of the seven or more minerals contribute to enhancing flavor. This is peculiar given that several of these minerals are not associated with an adverse impact on taste in other beverages, and that minerals in general are not regarded as flavor compounds.

It is believed by the applicant that the addition of the mineral mix as claimed provides for an entirely new flavor component that has never before been used to influence the taste of beer.

This is in concert with Examiner's assertion that the present invention is simply replacing minerals depleted during the dilution of beer.

Applicant would like to indicate that the addition of minerals as claimed does not replace the minerals lost as a result of the dilution. Applicant refers to the Examiner's remarks filed March 4, 2010 at page 16, last paragraph, where a comparison is made between the levels of minerals claimed and the levels of minerals in a range of beers set out in Table 3. The levels of minerals are not uniformly changed and some are quite outside of the range claimed. Accordingly addition of the minerals as claimed does not simply replace those lost. The second statement refers to compensating for the reduction and disruption of flavors and taste characteristics commensurate with dilution. Those flavors and taste characteristics come from a

large number of flavor compounds. Applicant does not replace the flavor compounds that are lost, but in one aspect (e.g. in the production of low alcohol beer) addition of the mineral mix compensates for those losses in flavor compounds. We refer the examiner to our submission above regarding flavor compounds in beer.

Applicant submits that the deficiency in taste in a diluted beer could be compensated for solely by the addition of a mineral mix was not known. It is submitted that flavor compounds in beer would be understood at the time of the present invention to be compounds other than minerals. There is accordingly no contemplation that compensation for flavor loss and degradation could be achieved by the addition of any form or minerals let alone the mineral mix of seven or more minerals as claimed. The present invention thus did not result from merely an optimization process rather it resulted from an entirely new approach to flavoring beers.

Moreover the mineral mix defined in the claims has not been disclosed before and its use is therefore inventive because it does enhance the flavor characteristics instead of providing a nutritional benefit. That the compositions are different are demonstrable by the different concentration provided for in Alcazar and we draw the Examiner's attention to the fact that in the only example provided in Donhowe the calcium content is about 1700mg/L which is approximately 7 fold higher than the higher level claimed in the present claims.

Applicant argued that minerals are added in Donhowe "during the preparation process". Examiner has pointed out that because we add minerals before it is consumed, we are also adding minerals during preparation. The Examiner appears to be correct in that Donhowe does add minerals after fermentation. This does however not detract from what Donhowe discloses, which are a combination of minerals and other matter.

Applicant does not agree that this is merely an optimization process. The statement by the Examiner that "it is obvious that adding minerals to beer would change the taste" is something that one would think likely based on the fact that many off-tastes in water are a result of the mineral content being too high. That does however not go to the point of the invention which is to enhance the taste of the beer by the addition of minerals only.

There is, Applicant submits, nothing in the prior art that teaches the addition of a mineral to enhance the taste of beer directly. Mineral content of water for making beer or addition of minerals at earlier stages is to enhance the activity of enzymes or micro-organisms or interactions of components of the beer during mashing, fermentation and the like. Donhowe suggests adding minerals (**amongst a large number of other compounds**) to finished beer from a nutritional point of view. The amount of mineral and relative proportions to be added from a nutritional point of view is different to the amount and relative proportions from a point of view of taste. To optimize taste from a nutritional point of view either one is driven by the RDA (Recommended Daily Allowance) or by a factor such as likely mineral loss due to perspiration or the like. There is no motivation to adjust the levels to be driven purely by taste and therefore the prior art does not provide any reason or motivation to optimize the levels of seven or more minerals for enhancement of flavor.

The Examiner appears to be arguing that it is obvious to use a different composition for different types of beers, given that the mineral composition varies. Applicant agrees that the inventive step in the present invention is not that the composition of the present invention can be separately optimized for different styles of beer, but rather that a mix of minerals in specific concentrations as set out in the claims can be used to enhance the flavor of beer.

Applicant is pleased to see that the Examiner concedes that the concentration of the minerals mix added in accordance with the claims is not the normal level of such minerals in the beers.

Applicant also notes that the Examiner has now stated that the inventor has optimized the levels of mineral to "safe levels". As stated earlier, the applicant has optimized levels of minerals clearly within levels that are suitable for consumption, but the optimization has not been to optimize for safety reasons. Clearly non-toxic levels are desired, and presumably a totally safe level would be zero. The inventor has optimized levels solely based on taste, and has arrived at a mineral mix of at least seven minerals that have not been shown before to enhance the taste of diluted beer and full strength beer. The references show no motivation to

optimize the levels of seven or more minerals for addition to a finished beer to enhance taste. The mineral mix composition and method of adding only minerals to beer is not something that a skilled addressee would have contemplated as a way of enhancing the flavor of beer. In applicant's submission there is no motivation to develop a mineral mix to enhance the flavor of a finished beer, because none of the citations raised by the Examiner show any hint that this could be done.

The Examiner has referenced Alcazar, and states (at paragraph 23 pages 7 - 8) that this document shows "mineral content of beers are different and even within a specific beer certain elements are more abundant than others, it is obvious that dilution of the beer will affect the normal levels of mineral constituents and certain elements will be even more affected than others with special reference elements of lower concentration. Therefore adding minerals (depending on the type of beer) will enhance the taste, body and mouth feel of the diluted beer."

Applicant does not see how the examiner gets to the point of view that "certain elements will be even affected more than others with special reference to elements of lower concentration". On our arithmetic, all elements will be diluted in exactly the same proportion as others.

Perhaps the Examiner has the idea that the impact of dilution by certain minerals on taste deterioration will be greater. However there is nothing in Alcazar that neither says so, nor is there anything in Alcazar that tells us which one of these, if any, will lead to taste deterioration more than any other. There is also nothing in Donhowe, Lindon or Costa that tells us which mineral's decrease in concentration leads to a greater deterioration in taste characteristic on being diluted. Accordingly nothing in any of the references raised teaches that there are any minerals, deficiency of which, impact more on taste degradation than others let alone the seven or more subjects of the present claims.

Applicant refers specifically to the statement by the Examiner "Therefore adding minerals (depending on the type of beer) will enhance the taste, body and mouth feel of the diluted beer." Applicant notes that the Examiner has admitted that taste components in beer are more than

just minerals and Applicant refers also to his submissions above in regards to the nature of flavor compounds in beer. Applicant's position is that in fact there is no evidence in any of the cited references that the impact of minerals are so significant that by adding a mineral mix one can enhance the flavor of beer, (diluted or undiluted) as a direct result of sensations those minerals have on the consumer. It is applicant's submission that this was unknown before the present invention. Prior art teaches an indirect effect whereby minerals impact on the biological processes leading up to finished beers.

In any event, Examiner has referenced Alcazar stating that "Applicants should realize the fact that the presently claimed invention is obvious in light of such a reference". Applicant submits that it is entirely appropriate to point out the differences, because the compositional data for minerals that is shown must be combinable with other references to support the Examiner's proposition in relation to an obviousness type rejection, and since Donhowe does not show the mineral composition it is appropriate to go to Alcazar for the composition. Applicant has appropriately found that neither document shows the mineral composition or motivation to change to composition in enhancing the taste in beer, therefore combining the documents cannot lead to the invention.

In applicant's submission the examiner has not provided any reason why the skilled artisan would change the mineral composition of the beers in Alcazar to "enhance the taste, body and mouth feel of the diluted beer." There is no teaching in any of the other references to motivate a skilled addressee to want to change the mineral components shown in Alcazar to improve flavor. The motivation for change is solely from a nutritional point of view. Such a motivation would, in applicant's submission, lead to the addition of a different mineral mix than claimed in the presently claimed invention. There is no disclosure that the mineral mix of Donhowe provides a means to "enhance the taste, body and mouth feel" of compositions disclosed in Alcazar nor in the applicant's submission is there a motivation to change the Donhowe mineral mix to cater to an entirely different aim, namely to enhance the taste in beer. As indicated earlier, the concentrations of elements are quite different, thus as can be seen in

Donhowe the exemplified composition shows the use of about 1700mg/L of calcium which is approximately seven fold more calcium than the highest level defined in the present claims.

Applicant's position has been stated in earlier submissions. The nub of the position is that Costa motivates the addition of one or more minerals in a very wide range of concentrations to beer from a nutritional point of view. The concentrations to cater for a nutritional supplement is quite different to concentrations from a taste-enhancement point of view. The concentrations relevant to taste enhancement have not been disclosed before in applicant's submission. Whilst the applicant is prepared to concede that the concentrations of minerals disclosed in Costa may be optimized for nutrition, there is simply no motivation to optimize them for taste. There is no disclosure in any one of R1 - R4 or Witt that taste of a finished beer can be enhanced by the addition solely of a mineral mix. There is no suggestion that it would be worth trying to adjust the levels of any mix of minerals or a mix of seven or more minerals in an attempt to enhance the taste of a finished beer.

Applicant argued that calcium and magnesium impact adversely on the taste in water. The examiner has argued that is not relevant - because water is not beer.

If the influence of a mineral on the flavor in beer is not understood, it is submitted that the skilled artisan would look to see its influence in water or other beverages. If the mineral provides an off-taste in another beverage, it is not going to be one that the skilled artisan would be inclined to select that mineral in an attempt to improve the flavor of beer. That calcium and magnesium impact adversely on taste in water is, Applicant submits, an indication of the non-obviousness of the addition to finished beer of a mineral mix where those two minerals are present in significant amounts.

The Examiner cannot have it every which way. The Examiner says that it is not to the point that magnesium and calcium provide an adverse taste reaction in water, because water is different than beer. Then selectively the Examiner says that salt is used to enhance the flavor of food, and inherent in that statement is that the Examiner considers that food is more like beer than water. Does the examiner suggest that the same levels of table salt should be added to

beer as to food to enhance its flavor? It is exceedingly difficult to conceive that the skilled artisan would add table salt to beer to enhance taste. Surely the examiner is not suggesting that adding table salt to beverages will improve their flavor. Applicant suggests that it is well known that adding table salt to water is not something that suggests itself as a way of enhancing taste and by analogy this is not an addition that would be something the skilled artisan is likely to try as a means of enhancing the taste of other beverages including beer. The term brackish is coined specifically for water which has a low level salt content to make it unpalatable.

Applicant notes the Examiner's point regarding Lindon disclosing safe levels of lithium in mineralized water. Applicant agrees. Applicant's difficulty with the use of the citation is that in none of R1- R4 is there any motivation to add lithium to a mineral mix, or add lithium at the very much lower claimed levels compared to the 0.6 to 1.5mg levels referred to in Lindon.

The Examiner has pointed to either beer or water whether the minerals claimed are present, at varying levels. Mostly in the case of beer, these are referred to as being present in beer in which there is no reference to there having been a mineral mix added after the beer has been finished. The concentration of some of the at least seven minerals defined in the claims differ in the disclosures. The examiner refers to altering the concentration as obvious, being mere optimization. Applicant differs with that view because the prior art in so far as it refers to added minerals is motivated by nutritional concerns and the relevant concentration range is different to that motivated simply by adjusting for enhanced taste. It was not known that a mineral mix added to finished beer would enhance taste, and it is not obvious to add a mix of minerals to do so, let alone the mix of the seven or more minerals in the concentration ranges defined in the claims.

Applicant respectfully points out to the Examiner that it is well known in the art that several minerals tend to have an adverse effect on taste, thus, for example, calcium and magnesium are known to impart an earthy flavor to water.

One might therefore reasonably query why one would want to add these minerals to enhance the flavor of beer if they adversely affect the flavor. The inventor has found that a balance of concentration of several minerals is required in which balance counteracts any adverse flavor input that might result from the addition of any one of the minerals on their own.

Accordingly, withdrawal of the obviousness rejection in view of the combination of Donhowe, Costa, and Lindon is respectfully requested.

Favorable consideration and early issuance of the Notice of Allowance are respectfully requested. Should further issues remain prior to allowance, the Examiner is respectfully requested to contact the undersigned at the indicated telephone number.

Respectfully submitted,

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Date: September 13, 2010

CERTIFICATE OF FILING

I hereby certify that a copy of the foregoing AMENDMENT C for U.S. Application No. 10/574,874 filed April 06, 2006, was electronically filed addressed: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on September 13, 2010.

/Evelyn A Defillo/

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